



Climate change and climate variability: Personal motivation for adaptation and mitigation

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Abstract:

BACKGROUND: Global climate change impacts on human and natural systems are predicted to be severe, far reaching, and to affect the most physically and economically vulnerable disproportionately. Society can respond to these threats through two strategies: mitigation and adaptation. Industry, commerce, and government play indispensable roles in these actions but so do individuals, if they are receptive to behavior change. We explored whether the health frame can be used as a context to motivate behavioral reductions of greenhouse gas emissions and adaptation measures. **METHODS:** In 2008, we conducted a cross-sectional survey in the United States using random digit dialing. Personal relevance of climate change from health threats was explored with the Health Belief Model (HBM) as a conceptual frame and analyzed through logistic regressions and path analysis. **RESULTS:** Of 771 individuals surveyed, 81% (n Euro Surveillance (Bulletin European Sur Les Maladies Transmissibles; European Communicable Disease Bulletin) 622) acknowledged that climate change was occurring, and were aware of the associated ecologic and human health risks. Respondents reported reduced energy consumption if they believed climate change could affect their way of life (perceived susceptibility), Odds Ratio (OR) Euro Surveillance (Bulletin European Sur Les Maladies Transmissibles; European Communicable Disease Bulletin) 2.4 (95% Confidence Interval (CI): 1.4-4.0), endanger their life (perceived severity), OR Euro Surveillance (Bulletin European Sur Les Maladies Transmissibles; European Communicable Disease Bulletin) 1.9 (95% CI: 1.1-3.1), or saw serious barriers to protecting themselves from climate change, OR Euro Surveillance (Bulletin European Sur Les Maladies Transmissibles; European Communicable Disease Bulletin) 2.1 (95% CI: 1.2-3.5). Perceived susceptibility had the strongest effect on reduced energy consumption, either directly or indirectly via perceived severity. Those that reported having the necessary information to prepare for climate change impacts were more likely to have an emergency kit OR Euro Surveillance (Bulletin European Sur Les Maladies Transmissibles; European Communicable Disease Bulletin) 2.1 (95% CI: 1.4-3.1) or plan, OR Euro Surveillance (Bulletin European Sur Les Maladies Transmissibles; European Communicable Disease Bulletin) 2.2 (95% CI: 1.5-3.2) for their household, but also saw serious barriers to protecting themselves from climate change or climate variability, either by having an emergency kit OR Euro Surveillance (Bulletin European Sur Les Maladies Transmissibles; European Communicable Disease Bulletin) 1.6 (95% CI: 1.1-2.4) or an emergency plan OR Euro Surveillance (Bulletin European Sur Les Maladies Transmissibles; European Communicable Disease Bulletin) 1.5 (95%CI: 1.0-2.2). **CONCLUSIONS:** Motivation for voluntary mitigation is mostly dependent on perceived susceptibility to threats and severity of climate change or climate variability impacts, whereas adaptation is largely dependent on the availability of information relevant to climate change. Thus, the climate change discourse could be framed from a health perspective to motivate behaviour change.

Source: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3125232>

Resource Description

Communication: ☒

resource focus on research or methods on how to communicate or frame issues on climate change;
surveys of attitudes, knowledge, beliefs about climate change

A focus of content

Communication Audience: ☒

audience to whom the resource is directed

Public

Other Communication Audience: Media

Exposure : ☒

weather or climate related pathway by which climate change affects health

Air Pollution, Ecosystem Changes, Extreme Weather Event, Food/Water Quality, Food/Water Security, Glacier/Snow Melt, Sea Level Rise, Temperature, Unspecified Exposure

Air Pollution: Allergens

Extreme Weather Event: Drought, Flooding, Hurricanes/Cyclones, Landslides, Wildfires

Food/Water Security: Agricultural Productivity, Livestock Productivity

Temperature: Extreme Cold, Extreme Heat, Fluctuations

Geographic Feature: ☒

resource focuses on specific type of geography

None or Unspecified

Geographic Location: ☒

resource focuses on specific location

United States

Health Co-Benefit/Co-Harm (Adaption/Mitigation): ☒

specification of beneficial or harmful impacts to health resulting from efforts to reduce or cope with greenhouse gases

A focus of content

Health Impact: ☒

specification of health effect or disease related to climate change exposure

Cancer, Dermatological Effect, Infectious Disease, Injury, Mental Health/Stress, Morbidity/Mortality, Respiratory Effect, Other Health Impact

Climate Change and Human Health Literature Portal

Infectious Disease: Airborne Disease, Foodborne/Waterborne Disease, Vectorborne Disease, Zoonotic Disease

Airborne Disease: Influenza

Foodborne/Waterborne Disease: General Foodborne/Waterborne Disease

Vectorborne Disease: Mosquito-borne Disease, Tick-borne Disease

Mosquito-borne Disease: Dengue, Malaria, West Nile Virus

Tick-borne Disease: Lyme Disease

Zoonotic Disease: Hantavirus Pulmonary Syndrome

Mental Health Effect/Stress: Mood Disorder, Stress Disorder

Other Health Impact: Heat stroke; Heat exhaustion

Mitigation/Adaptation: 

mitigation or adaptation strategy is a focus of resource

Adaptation, Mitigation

Population of Concern: A focus of content

Population of Concern: 

populations at particular risk or vulnerability to climate change impacts

Low Socioeconomic Status, Racial/Ethnic Subgroup

Other Racial/Ethnic Subgroup: Non-white

Other Vulnerable Population: People with low education; Women

Resource Type: 

format or standard characteristic of resource

Research Article, Research Article

Resilience: 

capacity of an individual, community, or institution to dynamically and effectively respond or adapt to shifting climate impact circumstances while continuing to function

A focus of content

Timescale: 

time period studied

Time Scale Unspecified